

REMARKS

Claims 1-20 are pending in the present invention. Claims 1-5 and 7-20 have been rejected. Claim 6 has been objected, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. Claim 1 has been amended, and claim 6 has been canceled without prejudice, leaving claims 1-5 and 7-20 for consideration upon the entry of the amendment. No new matter has been added by the amendment.

Claim Rejections under 35 U.S.C. 103:***Claims 1, 3-5, 7, 14, 17-18 and 20***

Claims 1, 3-5, 7, 14, 17-18 and 20 stand rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5,338,363 to Kawata et al. (hereinafter "Kawata") in view of U.S. Patent No. 6,217,658 to Orczyk et al. (hereinafter "Orczyk") for the reasons stated on pages 2-4 of the Office Action.

Claim 1 is a thin film deposition reactor comprising: a reactor block on which a wafer is placed; a shower head plate for uniformly maintaining a predetermined pressure by covering the reactor block; a wafer block installed in the reactor block, on which the wafer is to be sated; an exhausting portion connected to the reactor block for exhausting a gas from the reactor block; a first connection line in communication with the shower head plate for supplying a first reaction gas and an inert gas; a second connection line in communication with the shower head plate for supplying a second reaction gas and the inert gas; a diffusion plate mounted on a lower surface of the shower head plate, the diffusion plate having a plurality of spray holes which is in communication with the first connection line and face the upper surface of the wafer to spray the first reaction gas and the inert gas onto the wafer, and a plurality of nozzles which is in communication with a passage radially formed from the second connection line and extend toward the inner side surface of the reactor block to spray the second reaction gas and the inert gas toward edges of the wafer, whereby the first and second reaction gases are applied on the wafer without mixing each other; and a second mixing portion between the second connection line and the shower head plate for mixing the second reaction gas and the inert gas supplied from the second connection line and diffusing the mixture to the nozzles through the passage, the second mixing portion having an auxiliary diffusion plate in which holes are formed.

Claim 1 has been amended to incorporate the subject matter of canceled claim 6, which the Examiner indicated comprised allowable subject matter. Thus, claim 1 is believed to be patentable over the combination of Kawata and Orczyk. Claims 3-5, 7, 14, 17-18 and 20 depend from claim 1, thus are believed to be allowable due to their dependency on claim 1.

Claims 2 and 19

Claims 2 and 19 stand rejected under 35 U.S.C. 103(a) as being unpatentable over

Kawata and Orczyk, and further in view of U.S. Patent No. 5,439,524 to Cain et al. (hereinafter "Cain") for the reasons stated on page 4 of the Office Action.

Claims 2 and 19 depend from claim 1, which is believed to be patentable over the combination of Kawata, Orczyk and Cain for at least the reasons stated above. Thus, claims 2 and 19 are believed to be allowable due to their dependency on claim 1.

Claims 8-9 and 12

Claims 8-9 and 12 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Kawata and Orczyk, and further in view of U.S. Patent No. 5,976,261 to Moleshi et al. (hereinafter "Moleshi") for the reasons stated on pages 4-5 of the Office Action.

Claims 8-9 and 12 depend from claim 1, which is believed to be patentable over Kawata, Orczyk and Moleshi for at least the reasons stated above. Thus, claims 8-9 and 12 are believed to be allowable due to their dependency on claim 1.

Claims 10 and 15

Claims 10 and 15 stand rejected under 35 U.S.C. 103(a) as being unpatentable over the Kawata and Orczyk, and further in view of U.S. Patent No. 5,425,812 to Tsutahara et al. (hereinafter "Tsutahara") for the reasons stated on page 5 of the Office Action.

Claims 10 and 15 depend from claim 1, which is believed to be patentable over Kawata, Orczyk and Tsutahara for at least the reasons stated above. Thus, claims 10 and 15 are believed to be allowable due to their dependency on claim 1.

Claim 11

Claim 11 stands rejected under 35 U.S.C. 103(a) as being unpatentable over Kawata, Orczyk and Tsutahara, and further in view of Japanese Patent No. 09-316644 to Arai et al. (hereinafter "Arai") for the reasons stated on pages 5-6 of the Office Action.

Claim 11 depends from claim 1, which is believed to be patentable over Kawata, Orczyk, Tsutahara and Arai for at least the reasons stated above. Thus, claim 11 is believed to be allowable due to their dependency on claim 1.

Claim 13

Claim 13 stands rejected under 35 U.S.C. 103(a) as being unpatentable over Kawata and Orczyk, and further in view of U.S. Patent No. 5,076,207 to Washitani et al. (hereinafter "Washitani") for the reasons stated on page 6 of the Office Action.

Claim 13 depends from claim 1, which is believed to be patentable over Kawata, Orczyk and Washitani for at least the reasons stated above. Thus, claim 13 is believed to be allowable due to their dependency on claim 1.

Claim 16

Claim 16 stands rejected under 35 U.S.C. 103(a) as being unpatentable over Kawata and Orczyk and further in view of Arai for the reasons stated on pages 6-7 of the Office Action.

Claim 16 depends from claim 1, which is believed to be patentable over Kawata, Orczyk and Arai for at least the reasons stated above. Thus, claim 16 is believed to be allowable due to their dependency on claim 1.

Conclusion

It is believed that the foregoing amendments and remarks fully comply with the Office Action and that the claims, as amended herein, are now allowable to Applicant. Thus, reconsideration and allowance are respectfully requested.

The Examiner is invited to contact Applicant's attorneys at the below-listed phone number with any questions. If there are any charges due with respect to this Amendment or otherwise, please charge them to Deposit Account No. 06-1130 maintained by Applicant's attorneys.

Respectfully submitted,

CANTOR COLBURN LLP

By: 

Soonja Bae

Reg. No. (Sec Attached)

Confirmation No. 6816

Cantor Colburn LLP

55 Griffin Road South

Bloomfield, CT 06002

PTO Customer No. 23413

Telephone: (860) 286-2929

Fax: (860) 286-0115

Date: June 18, 2004